AMERICAN MUSEUM NOVITATES

Number 776 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — Feb. 2, 1935

59.57, 72 M (6)

AFRICAN MUSCIDAE.—II

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Several African genera are reviewed in this contribution, keys being presented to the species known to belong to them. It should be borne in mind that other described species may belong to each of the genera as now limited and that most of the species described in the genus *Coenosia* probably belong in this genus in the strict sense. However, without specimens it is impossible to decide their position and they have been omitted.

COENOSIA Meigen

I follow Hucket in placing *Caricea* Desvoidy as a synonym of *Coenosia* and therefore consider all species placed in *Coenosia* by Stein in which the posterior tibia bears only two bristles near the middle, their bases approximate, or the anterior bristle arising somewhat before the anterodorsal, as belonging to this genus. Species in which there is only one bristle (anterodorsal) present I do not consider as belonging here, and some species placed in *Caricea* by Malloch are excluded. Despite the fact that I am separating *Coenosia* and *Limosia*, at the present time I am inclined to the belief that they might properly be regarded as a single genus, and that the African species lacking the bristles used for the separation of these and related genera should all be placed in *Coenosia*.

TABLE OF SPECIES

1.—Femora black, the tips sometimes pale ..... 2.
  At least one pair of femora very broadly reddish or yellowish basally ..... 11.
2.—Knob of halteres brown ..... 3.
  Knob of halteres yellowish ..... 4.
3.—Face whitish pollinose ..... *praeacuta* Stein.
  Face brownish or brownish-yellow pollinose ..... *brunneifacies*, n. sp.
4.—Wings whitish on the basal half or more, brown apically ..... 5.
  Wings unicolorous or almost so, rarely whitish on basal fourth ..... 6.
5.—Paired black abdominal spots confluent and rather poorly defined. *semifumosa* Stein.
  Paired black abdominal spots widely separated, sometimes indistinct. *semialba* Malloch.
6.—Tibia wholly yellowish ..... *humilis* Meigen.
  Tibiae mostly brown or black ..... 7.

7.—Abdomen cinereous, with paired spots and sometimes a median vitta.....8.
Abdomen brown, the fourth segment often mostly cinereous, the others with broad, broadly interrupted basal fasciae or with cinereous sides.....9.

8.—Abdomen of male with median series of brown spots....*tripunctiventris* Malloch.
Abdomen without median series of brown spots.....*semialba* Malloch.

9.—Front about half as wide as one eye.....*pilifemur* Stein.
Front more than three-fourths as wide as one eye.....10.

10.—Lower squamal lobe twice as long as the upper; arista without pubescence below. *laxifrons*, n. sp.
Lower squamal lobe of female about one-half longer than the upper; arista very short plumose.....*nestor*, n. sp.

11.—Rays of the arista as long as the third antennal segment.....*longiseta* Stein.
Arista very short plumose or pubescent.....12.

12.—Cross-veins strongly clouded with brown.....*bequaerti*, n. sp.
Cross-veins not strongly clouded with brown.....13.

13.—Third antennal segment blackish.....14.
Third antennal segment pale yellow.....*longitarsis* Stein.

14.—Mesonotum with a pair of strong brown vittae extending on to the sides of the pale pollinose scutellum, the median vitta linear.....*inaequivitta* Malloch.
Mesonotum and scutellum differently colored.....15.

15.—All the coxae yellow, the middle pair rarely darkened toward the outer end..16.
Middle and posterior coxae usually mostly blackish in ground color.....17.

16.—Small species, under 4 mm. in length.....*ethelia*, n. sp.
Large species, about 6 mm. in length.....*atroapicata* Malloch.

17.—Anterior bristle on hind tibia arising opposite or before the base of the anterodorsal bristle.....19.
Anterior bristle arising distinctly beyond the base of the anterodorsal.....18.

18.—One hair and one bristle above the outer side of the front coxae. *cuthbertsoni*, n. sp.
Several hairs and a fine bristle above the front coxae.....*graueri*, n. sp.

19.—Mesonotum and abdomen uniformly whitish.....20.
Mesonotum or abdomen with at least a weak brownish vitta or vittae.....21.

20.—Front wholly silvery white in male.....*munroi*, n. sp.
Front with brown or black vitta in male.....*burunga*, n. sp.

21.—Species over 5 mm. in length.....22.
Not over 4 mm. in length; abdomen with paired spots and median brown vitta. (*flavipes* Adams).....*strigipes* Stein.

22.—Sides of the scutellum cinereous basally.....23.
Scutellum brown on its whole width basally, the apex usually cinereous; squamae of the male brownish.....*rebmanni* Speiser.

23.—Mesonotum with a strong median brown vitta extending on to the scutellum or with the three vittae only weakly separated.....24.
Without such markings.....26.

24.—Anterior bristle on the posterior tibia arising only a little before the anterodorsal bristle.....25.
Anterior bristle arising far before the anterodorsal bristle.....*calopoda* Bezzi.

25.—Anterior femora wholly black ..... *burunga*, n. sp.
Anterior femora black above ..... *strigaria*, n. sp.
26.—Anterior bristle on the posterior tibiae situated far before the anterodorsal bristle ..... *calopoda* Bezzi.
Anterior bristle on posterior tibiae situated only a little before the anterodorsal. *leopoldi* Curran.

Coenosia praeacuta Stein

Stein, 1913, Ann. Mus. Nat. Hung., XI, p. 568.

Two males, Mulata Mts., Harrar Province, Abyssinia, October 15, 22–25, 1920 (B. Brown); female, Chirinda Forest, Southern Rhodesia, November, 1930 (A. Cuthbertson).

I am not certain that the female belongs with the males since it has a brownish front, but the fact that the face is white pollinose leads me to believe that it is *praeacuta*. The species was originally described from a single male from Abyssinia.

Coenosia brunneifacies, new species

Related to *praeacuta* Stein but with the face and cheeks brown pollinose. Length, 3.5 to 4.5 mm.

Male.—Front and occiput white, the face and cheeks brown; front scarcely half as wide as one eye, gently widening posteriorly; six pairs of frontals, the upper pair reclinate, and one or two hairs; ocellars long and fine. Occipital hair black. Cheeks half as wide as the third antennal segment. Antennae black, with yellowish-brown reflection from basal view; arista swollen and pubescent on the basal sixth; third antennal segment ending moderately above the vibrissae, its upper apex produced but not acute. Palpi black.

Thorax black, the upper surface silvery white, the scutellum and postnotum more cinereous; acrostical hairs rather strong, in two rows; one or two hairs below the stigmatal bristle, the lower one directed obliquely downward.

Legs black; anterior tibiae with a long, fine bristle behind; anterior bristle on the posterior tibia situated close to the anterodorsal bristle.

Wings tinged with brown. Squamae white. Halteres brown.

Abdomen dull silvery white, without dark markings. Genitalia large, extending obliquely forward, the lobes of the fifth sternite with several long bristles at the base.

Female.—Front wider, brownish, with six pairs of bristles; occiput with cinereous pollen, the middle of the face grayish brown; third antennal segment not produced at the upper apex, the antennae distinctly shorter than in the male. Dorsum of thorax brownish. Abdomen sub-shining, brownish, the segments broadly tinged with gray laterally on the bases, the fourth segment mostly grayish.

Types.—Holotype, male, and two paratypes, males, Addis Abbaba, Abyssinia, August 31, 1920 (B. Brown). Allotype, female, Mount Ninagongo, Belgian Congo, 9700 ft., February 15, 1927 (J. Bequaert).

Coenosia semifumosa Stein

STEIN, 1914, 'Voy. Allauad and Jeann.,' Dipt., p. 136.
Caricea semifumosa MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 581.

Two males, Barberton, South Africa, May 21, 1913, and May 16, 1914 (H. K. Munro); male, Barberton, August, 1913 (L. S. Hardenberg).

Described from East Africa and recorded from Willow Grange, Natal, by Malloch. The female is unknown but probably has unicolorous wings and dark thorax and abdomen. The rays of the arista are fully as long as the width of the third antennal segment and it is possible that the two sexes may be associated on this character.

Coenosia humilis Meigen

MEIGEN, 1826, 'Syst. Beschr. Eur. Dipt.,' V, p. 220.
Caricea multimaculata ADAMS, Kans. Univ. Sci. Bull., III, p. 205.

Seven males and three females, Barberton, South Africa, May 5, 15, and 17, 1913, and May 17, 1914; male, Pretoria, Transvaal, January 5, 1916; female, Port Elizabeth, South Africa, February 24, 1919 (H. K. Munro); female, Illovo, South Africa, June 8, 1919; female, Premier Mine, South Africa, April 11, 1914 (H. K. Munro); female, Bloemfontein, South Africa, May 30, 1920 (H. E. Irving).

I have examined the type of *multimaculata* Adams and find that it agrees perfectly with a specimen in the collection, which has been marked "compared with type." I find that there is some variation in the color of the front, the white sheen being almost absent in some specimens, and some females have a distinct yellowish-brown tinge. However, I can find no other differences and believe that all the specimens are conspecific.

Coenosia pilifemur Stein

STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 572.
MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 581.

Five females, Barberton, South Africa, May 6, 15, 1913, 1915 (H. K. Munro).

A very small species, black, the sides of the abdomen thinly cinereous pollinose, the pollen extending as long triangles on to the dorsum of the first three segments, the fourth segment wholly pale pollinose in the female.

Coenosia laxifrons, new species

Black, the halteres and bases of the tibiae yellowish; wings with strong brown tinge. Length, 4.5 mm.

FEMALE.—Front brown pollinose, about one-third the width of the head at the vertex, gently narrowing anteriorly; four pairs of frontals, the upper pair reclinate;

ocellars long, the postocellars long and divergent. Occiput, cheeks and face cinereous pollinose, the hair and bristles black; cheeks very narrow. Palpi brown. Antennae black, with brownish reflection when viewed from the base; third segment long, acute at upper apex; arista with very short rays on the basal half of the upper surface.

Thorax cinereous pollinose, the dorsum, with the exception of the humeri, brown, the mesonotum with five darker vittae; acrostical hairs in two rows; no hairs surrounding the stigmatal bristle; anterior sternopleural bristle moderately strong.

Legs black, the bases of the tibiae broadly reddish yellow; coxae cinereous pollinose; anterior tibiae with a very long posterior bristle situated before the middle; anterior bristle on the hind tibiae situated opposite the anterodorsal bristle.

Wings with strong brown tinge; squamae cinereous white, the lower lobe twice as long as the upper. Halteres yellow.

Abdomen brown above, cinereous pollinose on the sides, venter, and broad bases of the segments, the pale fasciae more or less distinctly interrupted in the middle, the fourth segment mostly cinereous yellow pollinose with an incomplete median brown vitta.

HOLOTYPE.—Female, Pretoria, Transvaal, January 23, 1921 (H. K. Munro), returned to Mr. Munro.

Coenosia nestor, new species

Black, cinereous white pollinose, the male with brownish abdominal markings, the female with the abdomen mostly brown and the mesonotum with brown tinge; legs black. Length, 3 mm.

MALE.—Front as wide as one eye, black, the orbits cinereous, the triangle surrounding the ocelli brownish yellow; four pairs of frontal bristles, the anterior and third pair strongest, the upper pair rather short and reclinate; ocellars weak; postocellars as strong as the ocellars, gently divergent. Occiput, face, and cheeks white pollinose, the bristles black; cheeks wider than the third antennal segment. Palpi brown. Antennae black, the second segment white above; third segment acute at upper apex; arista very short plumose.

Thorax cinereous white pollinose, with brownish tinge on the middle of the dorsum; acrostical hairs in two irregular rows; no hairs surrounding the stigmatal bristle; anterior sternopleural bristle moderately strong.

Legs blackish; coxae whitish pollinose; posterior bristle on front tibia short and rather weak; anterior bristle on posterior tibia opposite the anterodorsal bristle.

Wings cinereous hyaline. Squamae whitish, the lower lobe almost twice as long as the upper. Halteres yellow.

Abdomen cinereous white pollinose, the segments with lateral brownish spots and median vitta that are fused, the dark areas variable in extent but usually covering most of the dorsum with the exception of large lateral rectangles on the bases of the segments. Genitalia large, extending forward almost to the middle of the abdomen.

FEMALE.—Mesonotum, with the exception of the humeri, yellowish brown; bristle on the front tibia stouter and longer; pale abdominal pollen forming interrupted bands on the bases of the segments.

TYPES.—Holotype, male, and allotype, female, Addis Abbaba, Abyssinia, August 31, 1920. Paratypes: two males and three females, Addis Abbaba, July 18, 1919, and August 31, 1920 (Barnum Brown).

Coenosia longiseta Stein

STEIN, 1906, Berlin Ent. Zeitschr., LI, p. 78; 1913, Ann. Mus. Nat. Hung., XI, p. 576.

Caricea longiseta MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 582.

Male, Lomagundi, Southern Rhodesia, November, 1928 (A. Cuthbertson); female, Gbanga, Liberia, September, 1926 (J. Bequaert). The species has been previously recorded from Ashanti, Sierra Leone, southern Nigeria, Uganda, Nyasaland and Natal.

Cinereous pollinose, the abdomen with three or four pairs of light brownish spots; legs yellowish, the coxae mostly black in ground color, the apical one or two segments of the tarsi brownish.

Coenosia bequaerti, new species

A large species with reddish-yellow, black-marked legs and dark brown clouds on the cross-veins. Length, 9 mm.

FEMALE.—Head white pollinose, the front brown with whitish orbits, the bristles arising from brown spots; front three-fourths as wide as one eye, its sides gently bowed outward; six pairs of frontals, the upper pair reclinate; ocellars long; postocellars long and divergent. Hair black. Cheeks twice as wide as the third antennal segment. Palpi brownish red, with the apex broadly brown. Antennae black, reaching to the lowest third of the face, the third segment sharply rounded at the upper apex, with brownish yellow reflection; second segment whitish pollinose; arista very short plumose, the lower rays not more than half as long as the upper.

Thorax cinereous white pollinose; mesonotum brown pollinose with the broad sides in front of the wings, a pair of median vittae on the anterior fourth and another pair beginning outside the posterior ends of the median pair and extending to the corners of the scutellum, cinereous white; scutellum cinereous with the disc brown. Acrostical hairs short, in three irregular rows anteriorly, numerous and occupying the entire space between the dorsocentrals in front of the scutellum. Several small hairs near the stigmatal bristle; anterior sternopleural bristle long. The pleura have a brown stripe above in front of the wings, the stripe broadening on the mesopleura.

Legs reddish yellow, the tarsi brown with paler bases; anterior femora black on the whole upper surface and on the apical third; middle femora black on the apical third, the posterior pair on the apical fourth; tibiae with faint brownish band near the basal fourth; coxae black, cinereous white pollinose, the tips of the front pair reddish. Posterior bristle on the front tibia long and strong, arising distinctly beyond the middle; anterior bristle on the posterior tibia arising distinctly beyond the anterodorsal bristle.

Wings cinereous hyaline, the veins brown; anterior cross-vein surrounded by a round, dark brown spot, the posterior cross-vein bordered with brown. Squamae white. Halteres yellow.

Abdomen cinereous pollinose; each segment with a pair of large brown spots and a narrow median vitta.

HOLOTYPE.—Female, Mount Ninagongo, Belgian Congo, 9700 ft., February 15, 1927 (J. Bequaert).

Coenosia longitarsis Stein

STEIN, 1900, Ent. Nachr., XXVI, p. 323.

Caricea longitarsis MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 587.

Described originally from Europe and recorded from Natal by Malloch.

Coenosia inaequivitta Malloch

Caricea inaequivitta MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 584.

Described from Kenya Colony, East Africa. I have not seen the species.

Coenosia ethelia, new species

A small species with yellow legs, including the coxae. Length, 3.5 mm.

FEMALE.—Front about half as wide as one eye, the vitta black with white sheen; four pairs of frontals, the second pair weak, the upper pair reclinate; ocellars long; postocellars long and divergent. Head white pollinose, the hair and bristles black. Cheeks as wide as the third antennal segment. Palpi brown. Antennae black, silvery in some views, the third segment with sharp upper apex; arista pubescent above.

Thorax cinereous pollinose, the mesonotum with a distinct median vitta and indistinct, yellowish-brown sublateral vittae. Acrostical hairs short and paired. No hairs surrounding the stigmatal bristle. Anterior sternopleural weak.

Legs reddish yellow; bristle on the posterior surface of the anterior tibiae situated at the middle and more than half as long as the tibia, the anterior bristle on the posterior tibiae situated opposite the anterodorsal bristle.

Wings cinereous hyaline. Squamae white, the lower lobe more than twice as long as the upper. Halteres yellow.

Abdomen cinereous pollinose, each segment with a brown median vitta and lateral spots, those on the fourth segment quite weak, the spots on the first segment rather diffuse.

TYPES.—Holotype, female, Pretoria, Transvaal, January 17, 1916, and paratype, female, Barberton, South Africa, May 15, 1913 (H. K. Munro). The type has been returned to Mr. Munro.

Coenosia atroapicata Malloch

Caricea atroapicata MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 586.

Female, Chirinda Forest, Southern Rhodesia, November, 1930; female, Inyanga, Southern Rhodesia, November, 1933 (A. Cuthbertson).

Both specimens have the coxae entirely yellowish, a character not mentioned in the original description. The brown abdominal spots are transverse, irregular in outline, but more or less rectangular.

Coenosia cuthbertsoni, new species

Cinereous, the abdomen with median vitta and lateral brown spots. Length, 4 to 5.25 mm.

MALE.—Head cinereous pollinose, face white, the frontal vitta black. Front three-fourths as wide as one eye, the sides gently bowed outward; four pairs of frontals,

only the anterior pair strong, the upper pair reclinate; ocellars short; postocellars divergent. Hair and bristles black. Cheeks one-half wider than the third antennal segment. Palpi brownish red, with the apex broadly black. Antennae black, the second segment silvery above; third segment short, the upper apex not acute; upper rays of the arista more than half as long as the width of the third antennal segment, the lower rays very short.

Thorax cinereous pollinose, the mesonotum with a distinct median vitta, weak sublateral vittae and indications of dorsocentral brown vittae. Acrostical hairs short, in two rows. At most a single hair near the stigmatal bristle; anterior sternopleural weak.

Legs reddish yellow, the coxae black, cinereous pollinose, the anterior pair mostly reddish in ground color; anterior femora with the upper surface broadly black, the posterior four with brown preapical spot above. Posterior bristle on the front tibia short, arising at the middle; anterior bristle on the posterior tibia arising distinctly beyond the anterodorsal and shorter than it; apical tarsal segment somewhat brownish.

Wings cinereous hyaline. Squamae white. Halteres yellow.

Abdomen oval, with median brown vitta and more or less orbicular or oval spots on each segment, those on the first segment weak. Genitalia rather small, the fifth sternite large.

FEMALE.—Frontal vitta with yellowish-brown tinge, the bristles arising from black spots; bristle on front tibia moderately long; first abdominal segment without distinct spots.

TYPES.—Holotype, male, Salisbury, Southern Rhodesia, April, 1927 (No. 105, A. Cuthbertson); allotype, female, Durban, Natal.

Coenosia graueri, new species

Black, with cinereous pollen and mostly reddish yellow legs; wings with brownish tinge anteriorly. Length, 6 mm.

MALE.—Head cinereous pollinose, the front strongly tinged with yellow; frontal vitta partly black in some views. Front about half as wide as one eye, gently widening above; five pairs of frontals, two of them hair-like, the upper pair reclinate; ocellars moderately long; postocellars divergent. Hair black. Cheeks about as wide as the third antennal segment. Palpi reddish brown. Antennae black, the second segment white above; apex of third segment angular above; arista long pubescent.

Thorax cinereous pollinose, with five brownish vittae that tend to fuse, none of them very conspicuous; acrostical hairs fine, in two rows; several hairs surrounding the fine stigmatal bristle; anterior sternopleural bristle weak or absent.

Legs reddish yellow; the posterior four coxae, broad upper surface of the anterior femora, the apical fourth or less of the posterior four femora on the upper half, and all the tarsi black; femora with abundant fine hair on the lower half; posterior bristle on the front tibia half as long as the tibia; anterior bristle on the posterior tibia long, situated distinctly beyond the anterodorsal.

Wings cinereous hyaline, lightly tinged with brown in front. Squamae white. Halteres pale yellow.

Abdomen cinereous pollinose, the dorsum of the second and third segments with a brown band occupying more than the apical half of each segment and extending

forward in the middle, the fourth segment with the middle broadly brown on most of its length. Genitalia rather small. Under side of the abdomen with soft hair medianly.

HOLOTYPE.—Male, Tanganyika, 1910 (Grauer), in Vienna Museum of Natural History.

Coenosia munroi, new species

A small, cinereous pollinose species with white face and front. Length, 2.5 to 3 mm.

MALE.—Head silvery-white pollinose, the occiput cinereous except along the orbits. Front three-fourths as wide as one eye, with three pairs of orbitals, the upper pair reclinate; ocellars long and fine; postocellars weak. Hair black. Cheeks about one-half wider than the third antennal segment. Palpi brown. Antennae rather small, black, silvery-white pollinose; third segment narrow, the apex rounded; arista pubescent above and below.

Thorax cinereous pollinose; acrostical hairs in two irregular rows; no hairs surrounding the stigmatal bristle; anterior sternopleural hairlike.

Legs reddish yellow; anterior femora black, the posterior four black on the apical fourth or more; tarsi black, the tibiae variable, usually brownish with the base and apex broadly yellow, the posterior pair usually brown with a paler median band, the anterior four sometimes yellowish with very broad subbasal brown bands. Posterior bristle on the front tibia long and slender; anterior bristle on the posterior tibia situated slightly before the anterodorsal.

Wings cinereous hyaline. Squamae whitish. Halteres reddish yellow.

Abdomen cinereous or cinereous white pollinose. Genitalia long, mostly black. Fifth sternite shining black.

TYPES.—Holotype, male, and paratypes, five males, Barberton, South Africa, May 15, 17, and 22, 1913 (H. K. Munro). The holotype has been returned to Mr. Munro.

Coenosia burunga, new species

Cinereous white pollinose, the legs mostly black. Length, 5 to 6 mm.

MALE.—Head white pollinose, the frontal vitta black; triangle surrounding the ocelli with yellow tinge. Front about half as wide as one eye, gently widening above; four pairs of frontals and one or two pairs of bristly hairs; ocellars moderately short; postocellars fine. Hair black. Cheeks one-half wider than the third antennal segment. Palpi brown. Antennae black, the second segment white above, the third angulate at upper apex, short, with silvery reflection in some lights; arista with short rays above, pubescent below.

Thorax cinereous white pollinose, without dark markings; acrostical hairs weak, sparse, in two rows; one or two hairs adjacent to the stigmatal bristle; anterior sternopleural weak.

Legs black; middle femora with the broad base yellowish, the posterior pair yellow on a little more than the basal half; tibiae brownish with the bases broadly yellow, the anterior pair paler in color than the others. Posterior bristle on the anterior tibia long and fine. Anterior bristle on the posterior tibia fine, situated distinctly before the anterodorsal.

Wings cinereous hyaline with the base broadly white. Squamae white. Halteres reddish yellow. Abdomen cinereous white, the fifth sternite less densely pollinose than the tergites; genitalia rather small.

FEMALE.—Very different in the color of the thorax and abdomen. Front a little wider. Mesonotum with three broad brown vittae, the median one extending as a triangle to the apex of the scutellum; legs colored as in the male but the posterior bristle on the front tibia, and the anterior bristle on the hind tibia, long and strong; wings wholly cinereous hyaline; abdomen cinereous pollinose, with a median vitta and paired, rather orbicular brown spots on the second to fourth segments.

TYPES.—Holotype, male, and allotype, female, Burunga, Belgian Congo (J. Bequaert).

Despite the marked difference in coloration I have no doubt about the relationship of the two sexes.

Coenosia strigipes Stein

Coenosia cingulipes STEIN, 1897, Wien. Ent. Zeitg., XVI, p. 92 (not Zetterstedt).
Caricea flavipes ADAMS, 1905, Kans. Univ. Sci. Bull., III, p. 206 (not Williston).
Ceonosia strigipes STEIN, 1916, Arch. für Naturg., LXXXI, Abt. A, Heft 10, p. 215 (1915).
Caricea strigulipes MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 587.

Male and two females, Barberton, South Africa, May 6, 15, 22, 1913; male, East London, Cape Province, February 15, 1919; female, East London, March 31, 1925 (H. K. Munro).

Stein originally confused this species with *cingulipes* Zetterstedt and described it under this name, later changing it to *strigipes*. I have compared specimens with the type of *flavipes* Adams and find that the specimens agree with the description of *strigipes*. The use of *strigulipes* by Malloch was an error, the reference being to *strigipes*.

Coenosia rebmanni Speiser

Coenosia fumipennis STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 575.
Caricea fumipennis MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 583.

Seven males and four females, Burunga, Belgian Congo (J. Bequaert).

The color of the femora varies considerably. The anterior femora may be all black or rather extensively reddish yellow on the lower half basally; the middle femora may be yellowish only on the basal fifth of the under surface or on more than the basal half below; the posterior femora may be reddish yellow on the basal three-fourths except above, or on only the basal third. One specimen from Tanganyika (Grauer) is evidently related to *rebmanni* but has the posterior femora reddish yellow except for a brown band occupying the apical fifth.

My reference to *rebmanni* has been mislaid and I have failed to locate either the notation or the publication in which the name was proposed.

Coenosia calopoda Bezzi

Bezzi, 1908, Bull. Soc. Ent. Ital., XXXIX, p. 119.
Caricea calopoda Malloch, 1922, Ann. Mag. Nat. Hist., X, p. 586.

Female, Behungi, Uganda, April 4, 1927 (J. Bequaert); female, northwest Tanganyika, 1910 (Grauer); male, Kibati, Belgian Congo, March 28, 1927 (J. Bequaert).

The male differs rather markedly from the female in lacking brown markings on the thorax and abdomen and in having the pollen more whitish.

Male.—Front half as wide as one eye, the vitta black, cinereous from anterior view, bisected on the upper half by the cinereous triangle surrounding the ocelli; five or six pairs of frontals; palpi brown. Antennae black, the second segment white above, the third thinly cinereous pollinose.

Thorax cinereous white pollinose, the acrostical hairs in two irregular rows; several hairs surrounding the fine stigmatal bristle; anterior sternopleural bristle absent.

Legs reddish yellow, the tarsi black; anterior femora broadly black above, the posterior four black on the apical third or less; femora with rather thick hair on the lower half. Posterior bristle on the anterior tibia fine; anterior bristle on the posterior tibia situated far before the anterodorsal bristle.

Wings cinereous hyaline, becoming rather whitish basally. Squamae white. Halteres yellow.

Abdomen uniformly cinereous pollinose, with rather thick hair below.

Coenosia strigaria, new species

Cinereous pollinose, the mesonotum with three brown vittae which may be more or less fused, the abdomen with median vitta and paired spots on the second and third segments. Length, 6 mm.

Female.—Head cinereous pollinose, the frontal vitta black with brown tinge in some lights, the triangle surrounding the ocelli brown. Front three-fifths as wide as one eye; five or six pairs of frontals, two or three of them weak, the upper pair reclinate, ocellars rather short. Hair black. Cheeks wider than the third antennal segment. Palpi shining brown. Antennae black, thinly cinereous pollinose, the second segment white above; third segment sharply rounded at the upper apex; arista very short plumose on the basal third, the lower rays not half as long as the upper.

Thorax with three brown dorsal vittae which may be more or less fused, the median one extending over the scutellum. Acrostical hairs in two irregular rows; a few hairs surrounding the stigmatal bristle; anterior sternopleural bristle weak.

Legs reddish yellow, the tarsi black; anterior femora black above, the middle pair black on the apical third, the hind pair on the apical fourth. Posterior bristle on the front tibia long and strong, the anterior bristle on the posterior tibia situated distinctly before the anterodorsal bristle.

Wings cinereous hyaline. Squamae white. Halteres pale yellow.

Abdomen cinereous pollinose, with a narrow median vitta and paired brown spots on the second and third segments.

TYPES.—Holotype, female, and paratype, female, western Tanganyika, 1910 (Grauer), the former in the Vienna Museum of Natural History.

Coenosia leopoldi Curran

Caricea leopoldi CURRAN, 1929, Rev. Zool. Bot. Afr., XVII, p. 247.

I have seen only the type series from the Belgian Congo.

XENOCOENOSIA Malloch

I am assigning to this genus a species that agrees with the type species of *Xenocoenosia* in having only a single bristle on the median half of the posterior tibiae but lacking the posterior preapical bristle on the hind femora. Huckett, in his revision of the American species, united *Xenocoenosia* and *Neodexiopsis* on the basis that both possess a row of three preapical bristles on the upper half of the posterior femora. If we follow Huckett the African species would probably be considered as belonging to *Limosia* Desvoidy (*Coenosia* authors) but I follow Malloch in separating *Xenocoenosia* on the arrangement of the tibial bristles. It is possible that a new genus should be erected for the species before me or that *Coenosia* and *Limosia* should be united, without even subgeneric rank for the latter.

Malloch has described *Coenosia xenia*, a species rather similar to the form before me, but differing in the color of the abdomen and legs.

TABLE OF SPECIES

Anterior femora very broadly yellow basally on the whole surface; abdomen brown above, the bases of the segments more or less cinereous..... *africa*, n. sp.

Anterior femora black above on their whole length; abdomen cinereous, with median brown vitta and lateral spots..... *xenia* Malloch.

Xenocoenosia africa, new species

Black, with brown and cinereous pollen; femora yellow with the apices broadly black. Length, 6.5 to 8 mm.

MALE.—Head thickly cinereous pollinose, the front yellowish brown, with the frontal vitta black, divided on the upper half by a cinereous triangle extending forward from the vertex; from anterior view the front appears wholly yellowish-brown pollinose; four or five pairs of frontals, the median pair longest, the upper pair reclinate, the one or two pairs behind the anterior pair weakest; ocellars long. Hair and bristles of the occiput and oral margin black. Cheeks about as wide as the third antennal segment; parafacials linear. Proboscis and palpi brown. Antennae black, the apex of the second segment sericeous above; third segment not sharply angulate at upper apex; arista rather long pubescent above and below on the basal half or more.

Mesonotum brownish pollinose, the sides cinereous; dorsocentrals 1–3; acros-

tical hairs short, paired. Scutellum brown pollinose with the margin cinereous toward the lower edge. Pleura cinereous pollinose; four sternopleurals arranged in a triangle, three in the posterior row.

Coxae brown, cinereous pollinose, the anterior pair yellowish with brown stains, sometimes mostly brownish in ground color. Femora yellow, the apical third to one-half black, the upper surface more extensively black than the lower; tibiae and tarsi blackish, the anterior tibiae reddish brown, all with the bases broadly yellowish. Posterior femora with two preapical bristles above, none in front or behind. Anterior tibiae with a long, fine, posterior bristle; middle tibiae with shorter, coarser posterior bristle and a weak anterior bristle near the middle; posterior tibiae with a long antero-dorsal bristle situated near the middle, the preapical dorsal bristle situated rather far before the apex.

Wings pale brown; squamae white; halteres pale yellow.

Abdomen black, brown pollinose above, the sides and venter with cinereous pollen; base and apex of the abdomen and indistinct basal fasciae on the second to fourth segments cinereous pollinose. Bristles on the sides and apex of the abdomen long, the fourth segment with a row of rather fine marginals surrounding the hypopygium. Genitalia brown.

FEMALE.—The legs are usually a little less extensively black and the genital segments are yellowish.

TYPES.—Holotype, male, allotype, female, and twelve paratypes of both sexes, northwest Tanganyika, 1910 (Grauer), the types in the Vienna Museum of Natural History.

Xenocoenosia xenia Malloch

Coenosia xenia MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 585.

Described from Natal. I have not seen the species.

DICHAETOMYIA Malloch

MALLOCH, 1921, Ann. Mag. Nat. Hist., VII, p. 163.

This genus is well represented in Africa but it is impossible at present to determine the number of species referable to it since most of them have been described in other genera. It is probable that several other described species will be found to belong here. The following key includes all of those known to me.

TABLE OF SPECIES

1 —Four postsutural dorsocentrals, the anterior two pairs sometimes weak.....2.
Two or three pairs of strong postsutural dorsocentrals.....5.

2. —Mesonotum reddish in ground color, with two black vittae.....3.
Mesonotum black or reddish without black vittae.....4.

3. —The black vittae are overlaid with white pollen.....*macfiei* Malloch.
The black vittae are not conspicuously white pollinose from posterior view.
phasiaeformis Stein.

4. —Sides of the scutellum bare below the marginal bristles.....*devia*, n. sp.
Sides of the scutellum setose to the lower edge.....*liberia*, n. sp.

5.—Femora partly or wholly black.....6.
Femora wholly reddish or yellowish.....8.
6.—Anterior tibia with a posterior bristle near the middle.....7.
Anterior tibia without bristles except apically.....*conformis*, n. sp.
7.—Front of male about one-third of the head-width.....*latifrons* Malloch.
Front of male not over one-fifth as wide as the head.....*devia*, n. sp.
8.—Tibiae brown; tarsi black.....9.
Tibiae reddish or yellowish.....10.
9.—Squamae whitish with narrow blackish border.....*fasciculifera* Stein.
Squamae yellowish.....*fuscitibia* Stein.
10.—Palpi black.....11.
Palpi yellow.....13.
11.—Mesonotum black with three pale pollinose vittae.....12.
Mesonotum thinly, evenly pollinose (Java! Africa?).....*apicalis* Stein.
12.—Humeri yellow.....*quadrata* Wiedemann.
Humeri not yellow.....*polita* Malloch.
13.—Anterior tibiae without a posterior bristle.....*pallidula*, n. sp.
Anterior tibiae with a posterior bristle near the middle.....*munroi*, n. sp.

Dichaetomyia macfiei Malloch

Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 479.

A reddish-yellow species from northern Nigeria. The mesonotum bears two black vittae overlaid with white pollen. The anterior tibiae bear a bristle on the posterior surface near the middle and the parafrontals are brownish yellow. Only the female is known.

Dichaetomyia phasiaeformis Stein

Mydaea phasiaeformis Stein, 1906, Berl. Ent. Zeitschr., LI, p. 36 (Cameroon).
Allauadinella phasiaeformis Stein, 1919, Arch. für Naturg., LXXXIII, Heft 1, p. 126.
Malloch, 1925, Ann. Mag Nat. Hist., XVI, p. 363 (Uganda).

I have not seen this species which is similar to the preceding, but is a little larger and lacks the white pollen over the two black mesonotal vittae.

Dichaetomyia latifrons Malloch

Malloch, 1928, Ann. Mag. Nat. Hist., I, p. 468.

Originally described from Uganda.

A black species with yellowish-brown wings and shining abdomen, the mesonotum rather thinly cinereous pollinose and black vittate. In the male there are only two strong postsutural dorsocentrals, the anterior two pairs being very small or absent.

Dichaetomyia devia, new species

Similar in appearance to *latifrons* Malloch but the front is less than one-sixth the width of the head; shining black, the thorax thinly pollinose; tibiae reddish yellow. Length, 6.5 to 8 mm.

MALE.—Eyes separated by a distance greater than the length of the ocellar triangle, one pair of strong bristles immediately above the antennae, the others weak, the upper pair reclinate, the intermediate bristles hairlike; parafrontals with silvery pollen; ocellars long and strong; verticals not differentiated. Face, occiput and cheeks with cinereous pollen, that on the face rather silvery; hair black. Proboscis and palpi blackish. Antennae blackish, the incisure between the second and third segments broadly reddish; arista with long rays.

Thorax black or dark brown, rather thinly pale pollinose and weakly bivittate, the dark vittae narrow. Acrosticals 0–1; dorsocentrals 2–2, the anterior two pairs of postsutural dorsocentrals quite weak and not greatly longer than the surrounding hair, the posterior two pairs strong; sternopleurals 2–1; two pairs of marginal scutellars; prealar bristle very weak. The pollen on the disc of the mesonotum is more or less strongly tinged with brown.

Legs black; tibiae and tarsi reddish yellow, the tarsi becoming blackish apically; tips of the femora reddish; anterior tibiae with a median posterior bristle.

Wings strongly tinged with brown; base of third vein with or without a few setulae below. Squamae pale brown, with darker border and grayish fringe. Halteres yellow, with blackish knob.

Abdomen shining black; third and fourth segments each with a row of marginals, the fourth with a row of discals.

FEMALE.—Front about one-fourth the width of the head; two pairs of strong and two pairs of weak frontals; verticals long and strong. Dark mesonotal vittae more conspicuous and moderately wide; three pairs of postsutural dorsocentrals; wings quite brown in front.

TYPES.—Holotype, male, Gbanga, Liberia, September, 1926. Allotype, female, Banga, Liberia, October, 1926. Paratypes: male, Memeh Town, Liberia, August 29, 1926 (J. Bequaert); male and female, northwest Tanganyika, 1910 (Grauer). The specimens from Tanganyika are in the Vienna Museum of Natural History.

Dichaetomyia liberia, new species

Related to *latifrons* Malloch but readily distinguished by having the sides of the scutellum setulose to the lower edge. Dull rusty reddish, the abdomen blackish on the apical half. Length, 6.5 to 7 mm.

MALE.—Head black, white pollinose, the facial ridges and sometimes the depression reddish in ground color. Front a little wider than the width of the ocellar triangle, the black frontal vitta twice as wide as either parafrontal and appearing white from anterior view; three or four pairs of frontal bristles on the anterior third and several hairs between them and the ocellar triangle; ocellars long; verticals not developed. Cheeks narrow, black-haired. Parafacials very narrow. Palpi reddish brown. Antennae reddish yellow, the third segment mostly brown; arista brown long plumose. Eyes with the facets slightly enlarged in front.

Thorax rusty reddish, paler on the sides, the mesonotum rather thinly cinereous

white pollinose and with four narrow, not conspicuous bare vittae, the median pair strongly broadened posteriorly; usually a brown spot below the infra-alar bulla. Hair black. Dorsocentrals 2–4, the anterior presutural and two anterior postsutural bristles weak; anterior intra-alar absent, the prealar short; two pairs of marginal scutellars, the scutellum haired on its lower edge; sternopleurals 1–2.

Legs reddish, the tarsi somewhat darker; middle femora with only the preapical bristles, the posterior pair with only two preapical anteroventrals. Anterior tibiae with a median posterior bristle; middle tibiae with two posterior bristles; posterior tibiae with one or two posterodorsal, one anterodorsal and one or two anteroventral bristles.

Wings with strong luteous tinge; fourth vein moderately curved forward apically; stem of second and third veins with two or three setulae below. Squamae yellowish cinereous. Halteres yellow.

Abdomen rusty reddish, the third and fourth segments shining blackish-brown, the base of the third sometimes reddish laterally. Venter reddish with the apex brown. Hair black. Third and fourth segments each with a row of marginals, the fourth with a row of discals, the third with two on either side.

TYPES.—Holotype, male, Kakatown, Liberia, August 20, 1926. Paratypes: male, Monrovia, Liberia, 1926, and Du River Camp No. 3, Liberia (J. Bequaert).

This species resembles *Spilogaste analis* Stein but the tarsi are not black.

Dichaetomyia conformis, new species

Related to *latifrons* Malloch but the anterior tibiae bear a median bristle on the posterior surface, the abdomen is pale, etc. Length, about 6.5 mm.

MALE.—Head black, white pollinose, the facial ridges reddish in ground color. Front narrower than the width across the ocellar triangle; four pairs of frontals on the anterior third and a pair of hairs in front of the ocelli; ocellars long. Cheeks narrow, black-haired. Parafacials very narrow. Palpi brown. Antennae brown, the apex of the second segment and base of the third reddish. Eyes with slightly enlarged facets anteriorly.

Thorax black, cinereous pollinose, with four weak brownish vittae; humeri yellow, the scutellum and sometimes the sides of the mesonotum brownish. Hair black. Dorsocentrals 2–3; anterior intra-alar long; prealar well developed; three pairs of marginal scutellars, the intermediate pair weak; sides of the scutellum bare; sternopleurals 1–2.

Legs brown; tibiae yellow. Middle femora with one or two long bristly hairs below near the base; posterior femora with two long posteroventral fine bristles on the basal half and with a row of seven or eight on the whole anteroventral surface. Anterior tibiae without bristles near the middle; middle tibiae with two posterior bristles; posterior tibiae with two weak posterodorsal, one anterodorsal, and two anteroventral bristles.

Wings rather strongly tinged with luteous; fourth vein gently curved forward apically; about five setae on the basal part of the third vein. Squamae luteous, with brown border. Halteres brownish yellow.

Basal two abdominal segments rusty reddish-yellow, the apical two, and the apex of the third in the middle, brownish or ferruginous, the fourth broadly reddish

apically. Venter yellow on the basal half, brownish apically; first sternite with two or three blackish setulae on either side. Hair black; third and fourth segments each with a row of marginals and on either side with two or three discals.

FEMALE.—Front with parallel sides, the parafrontals narrow, cinereous white pollinose; frontal vitta dull reddish; four or five pairs of frontals, the anterior and posterior pair long and strong. Humeri pale yellow. Third abdominal segment with only one lateral discal.

TYPES.—Holotype, male, Paiata, Liberia, October, 1926; allotype, female, Du River Camp No. 3, Liberia, 1926 (J. Bequaert).

Dichaetomyia fasciculigera Stein

Mydaea fasciculigera STEIN, 1910, Proc. Linn. Soc. London, XIV, p. 153.
MALLOCH, 1921, Ann. Mag. Nat. Hist., VIII, p. 420.

This species is known only from the Seychelle Islands.

Dichaetomyia fuscitibia Stein

Spilographa fuscitibia STEIN, 1906, Berl. Ent. Zeitschr., LI, p. 51.
MALLOCH, 1921, Ann. Mag. Nat. Hist., VIII, p. 421.

Originally described from Cameroon and recorded from Ashanti by Malloch.

Dichaetomyia apicalis Stein

Spilographa apicalis STEIN, 1904, Tijd. v. Ent., XLVII, p. 103.
MALLOCH, 1921, Ann. Mag. Nat. Hist., VIII, p. 421.

Stein described this species from Java. Malloch records it from Cameroon.

Dichaetomyia quadrata Wiedemann

Anthomyia quadrata WIEDEMANN, 1824, 'Anal. Ent.,' p. 42 (Java).
Anthomyia quadrata WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 428 (Java).
Spilogaster lineata STEIN, 1904, Tijd. v. Ent., XLVII, p. 102 (Java).
Spilogaster lineata STEIN, 1906, Berl. Ent. Zeitschr., LI, p. 51.

Female, Impamputo, Portuguese, East Africa, February 20, 1925 (C. B. Hardenberg); female, Lissalla, Congo, December 26, 1926; male and female, Du River Camp No. 3, Liberia; female, Memeh Town, Liberia, August 29, 1926; female, Lenga Town, Liberia, August 15, 1926 (J. Bequaert); two males, Balla Balla, Southern Rhodesia, January, 1933 (A. Cuthbertson).

Superficially this species resembles *conformis*, new species, but the femora are wholly pale and the mesonotum is more strongly vittate. The scutellum is haired on the sides, the anterior tibiae lack median bristles, the fourth vein is only a little curved forward and the abdomen is mostly rusty yellowish.

Dichaetomyia polita Malloch

MALLOCH, 1921, Ann. Mag. Nat. Hist., VII, p. 163.
MALLOCH, 1921, Ann. Mag. Nat. Hist., VIII, p. 420.

Originally described from British East Africa and later recorded from Ashanti.

Malloch originally described the shining black form but later indicated that the species is variable in color, sometimes being rusty reddish with vittate mesonotum and the apical half of the abdomen black.

Dichaetomyia pallidula, new species

Palpi yellow; head black; thorax and abdomen rusty reddish-yellow; sides of the scutellum bare. Length, 7.5 mm.

FEMALE.—Head black, cinereous white pollinose, the facial ridges and depression reddish in ground color. Front narrower than either eye, gently narrowing above; frontal vitta appearing white from anterior view; parafrontals narrow; four pairs of strong frontals and a row of setulae outside them; ocellars long. Verticals and outer verticals strong. Cheeks narrow, black-haired. Parafacials tapering below. Palpi reddish yellow. Antennae pale orange; the third segment and arista mostly brown.

Thorax rusty yellowish, thinly white pollinose, the mesonotum rusty reddish and with four bare vittae. Three pairs of postsutural dorsocentrals; anterior intra-alar long; prealar strong; four pairs of marginal scutellars, the basal and subapical pair weak; sides of scutellum bare; sternopleurals 1–2. Hair black, yellow on the prosternum.

Legs reddish yellow, the tarsi darkened apically. Posterior femora with four anteroventral bristles on the apical fourth; anterior tibiae without median bristles; middle tibiae with two posterior bristles, the posterior tibiae with three posterodorsal, one anterodorsal and two anteroventrals.

Wings cinereous hyaline, with slight yellowish tinge; fourth vein slightly curved forward apically; third vein bristled below halfway to the small cross-vein. Squamae brownish yellow, the halteres pale orange.

Abdomen rusty yellowish, broadly paler basally, dulled with brownish yellow pollen. Third and fourth segments each with a row of marginals, the fourth with a row of discals, the third with two or three on either side. Hair black.

TYPES.—Female, Port Shepstone, Natal, July 17, 1917 (H. K. Munro), returned to Mr. Munro; paratype, female, Salisbury, Southern Rhodesia, June 14, 1932 (A. Cuthbertson).

The latter specimen has a large (macrotype) white egg protruding from the ovipositor. Several specimens of *Dichaetomyia* I have seen were taken at excrement.

Dichaetomyia munroi, new species

Apparently related to *pallidula,* new species, but rather brown in color and with a strong posterior bristle at the middle of the front tibiae. Length, 7 mm.

MALE.—Head black, cinereous pollinose, the parafrontals and parafacials silvery; facial ridges reddish in ground color. Front narrower than the width of the ocellar

triangle, the black frontal vitta appearing cinereous from anterior view; three pairs of strong frontals anteriorly, two or three hairs adjacent to them and two pairs of short hairs near the ocellar triangle; ocellars long. Cheeks almost one-sixth as wide as eye-height, black-haired, rather brownish pollinose. Parafacials very narrow. Palpi reddish yellow. Antennae yellowish, the third segment and arista mostly brown.

Thorax rusty reddish, with reddish-brown pollen, the pleura mostly brownish gray pollinose; mesonotum, from anterior view, with a broad, ferruginous median vitta and traces of narrow vittae along the lines of the bristles; from posterior view appearing reddish brown with three rather narrow yellowish vittae. Three pairs of postsutural dorsocentrals; anterior intra-alar long, the prealar not one-fourth as long as the supra-alar; two pairs of marginal scutellars and indications of two others, the sides of the scutellum haired almost halfway to the lower edge; sternopleurals 1–2. Hair wholly black.

Legs reddish, the tarsi brownish apically. Middle femora with four long, fine ventral bristles on the basal half; posterior femora with five long anteroventral bristles on the apical third and one or two on either side basally. Anterior tibiae with a very strong posterior bristle near the middle, the middle tibiae with two posterior bristles; posterior tibiae with a weak posterodorsal bristle, a strong anterodorsal and one or two weak anteroventral bristles.

Wings with strong luteous tinge; fourth vein slightly curved forward apically; third vein with three or four setulae basally. Squamae yellowish cinereous, with brown border. Halteres pale orange.

Abdomen with the basal segment and very large, basal triangles on the sides of the second, yellowish in ground color, otherwise blackish, the whole overlaid with thick yellowish-brown pollen. Hair wholly black. Third and fourth segments each with a row of erect marginals, the second with two or three laterally, the fourth also with a row of discals behind the middle; second and third segment with two or three lateral discals.

Types.—Holotype, male, Elliot, South Africa, May 11, 1924 (H. K. Munro); returned to Mr. Munro. Allotype, female, Gwelo, Southern Rhodesia, May 30, 1932. Paratypes: female, Balla Balla, Southern Rhodesia, March, 1931 (A. Cuthbertson); and female, northwest Tanganyika (Grauer).

Synonymy

Dichaetomyia (*Macroxanthomyia*) *celosia* Malloch. See *Panaga*.
Dichaetomyia (*Macroxanthomyia*) *distanti* Malloch. See *Panaga*.
Dichaetomyia (*Macroxanthomyia*) *fasciventris* Malloch. See *Panaga*.
Dichaetomyia (*Macroxanthomyia*) *immaculiventris* Malloch. See *Panaga*.
Dichaetomyia (*Panaga*) *limbipennis* Curran. See *Panaga*.
Dichaetomyia lineata Stein = *quadrata* Wiedemann.
Dichaetomyia (*Macroxanthomyia*) *maculiventris* Malloch. See *Panaga*.
Dichaetomyia (*Macroxanthomyia*) *obscuritarsis* Malloch. See *Panaga*.
Dichaetomyia pallens Curran. See *Panaga*.

PANAGA Curran

CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 353, as a subgenus of *Dichaetomyia* Malloch.

Macroxanthomyia MALLOCH, 1930, Ann. Mag. Nat. Hist., V, p. 43, as a subgenus of *Dichaetomyia* Malloch.

The type of *Panaga* is *limbipennis* Curran, of *Macroxanthomyia, distanti* Malloch.

Panaga was separated from typical *Dichaetomyia* on account of the presence of setulae on the suprasquamal declivity and the presence of four postsutural dorsocentrals. *Macroxathomyia* was proposed for species having the infra-alar bullae haired, and the genotype lacks the setae on the suprasquamal declivity and has but three postsutural dorsocentrals. Both genotypes agree in having the infra-alar bullae haired, the other characters being variable, and I believe that the group is entitled to generic rank.

TABLE OF SPECIES

1.—Three postsutural dorsoventrals....3.
Four postsutural dorsocentrals....2.
2.—Wings unicolorous....*albivitta* Stein.
Wings with the costal border broadly brown on the apical half. *limbipennis* Curran.
3.—Sides of the scutellum bare below the marginal bristles....4.
Sides of scutellum haired to the lower border or nearly so....7.
4.—Anterior tibiae with a posterior bristle near the middle....5.
Anterior tibiae without median bristles....6.
5.—Mesonotum with a broad, dark median vitta....*serena* Stein.
Mesonotum rusty reddish, almost unicolorous....*distanti* Malloch.
6.—Abdomen and scutellum wholly yellowish....*immaculiventris* Malloch.
Abdomen black or brown, the base and broad segmental apices yellow; scutellum with the disc black or brown....*maculiventris* Malloch.
7.—Anterior tibiae with a posterior bristle near the middle....8.
Anterior tibiae with only the apical bristles....10.
8.—Several black setulae below the inner end of the squamae..*obscuritarsis* Malloch.
No infrasquamal setulae....9.
9.—Posterior femora with several long, posteroventral bristles on the basal half. *fasciventris* Malloch.
Posterior femora with at most one posteroventral bristle on the basal half. *celosia* Malloch.
10.—Suprasquamal declivities with black setulae....11.
Suprasquamal declivities bare....12.
11.—Mesonotum with a conspicuous median white spot in front; large species. *ovata* Stein.
Mesonotum without white spot in front....*rutila* Stein.
12.—Tarsi wholly black or brown....*pallens* Curran.
Tarsi wholly reddish....*graueri*, new species.

Panaga albivitta Stein

Spilogaster albivitta Stein, 1906, Berl. Ent. Zeitschr., LI, p. 41 (Togo).

Dichaetomyia (*Macroxanthomyia*) *albivitta* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 475.

Malloch records the species from Sierra Leone, Kenya and Tanganyika.

Very similar to *limbipennis* Curran but distinguished by having unicolorous wings.

Panaga limbipennis Curran

Dichaetomyia (*Panaga*) *limbipennis* Curran, 1928, Bull. Amer. Mus. Nat. Hist, LVII, p. 353.

The type, female, was from Panga, Congo.

Panaga serena Stein

Spilogaster serena Stein, 1906, Berl. Ent. Zeitschr., LI, p. 53. (Nyasaland).

Spilogaster unilineata Stein, 1906, Berl. Ent. Zeitschr., LI, p. 53 (Pungo Andango).

Dichaetomyia (*Macroxanthomyia*) *unilineata* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 476.

Malloch records the species from Natal, Nyasaland, Kenya and Uganda.

In his catalogue of Muscidae Stein placed *unilineata* as a synonym of *serena*.

Panaga distanti Malloch

Dichaetomyia (*Macroxanthomyia*) *distanti* Malloch, 1930, Ann. Mag. Nat Hist., V, p. 475.

Two females, East London, Cape Province, May 9, 1923, and January 27, 1925; male and three females, Pretoria, Transvaal, February 22, 27, 1915, April 29, 1915, and May 18, 1919 (H. K. Munro); three females, Pretoria, June 6, 1915, on window pane (collector ?); two males, Balla Balla, Southern Rhodesia, May, 1931; female, Salisbury, Southern Rhodesia, November, 1932 (A. Cuthbertson).

Panaga immaculiventris Malloch

Dichaetomyia (*Macroxanthomyia*) *immaculiventris* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 477.

Described from Lourenco Marquis and doubtfully from Nyasaland. Male, Gurungwe, Southern Rhodesia, July, 1933 (A. Cuthbertson); male, "Waboniland."

Panaga maculiventris Malloch

Dichaetomyia (*Macroxanthomyia*) *maculiventris* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 478.

Two females from Pretoria, Transvaal, July 22, 1913, and May 2, 1914 (H. K. Munro).

The color of the mesonotum and scutellum varies from ferruginous to reddish yellow.

Panaga obscuritarsis Malloch

Dichaetomyia (*Macroxanthomyia*) *obscuritarsis* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 476.

The type, a female, came from Nigeria. A second damaged specimen from Uganda was doubtfully referred to the species.

Panaga fasciventris Malloch

Dichaetomyia (*Macroxanthomyia*) *fasciventris* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 476.

This species was described from three specimens from southern Nigeria.

Panaga celosia Malloch

Dichaetomyia (*Macroxanthomyia*) *celosia* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 477.

Originally described from Southern Rhodesia, Nigeria and Uganda. I have before me a male and female from northwest Tanganyika and a female from Forest Moera, 1910 (Grauer).

Malloch describes the species as having no bristles on the posteroventral surface of the posterior femora, but in the key states that there is at most one; all of my specimens possess one near the base and another before the middle.

Panaga ovata Stein

Mydaea ovata Stein, 1918, Ann. Mus. Nat. Hung., XVI, p. 192.

Dichaetomyia (*Macroxanthomyia*) *ovata* Malloch, 1930, Ann. Mag. Nat. Hist., V, p. 478.

Female, Lenga Town, Liberia, August 5, 1926 (J. Bequaert).

Panaga rutila Stein

Mydaea rutila Stein, 1918, Ann. Mus. Nat. Hung., XVI, p. 192.

Male, Ngoma, Congo, February 2, 1927; female, Bakratown, Liberia, October, 1926 (J. Bequaert).

Panaga graueri, new species

Rusty reddish-yellow, with black markings; suprasquamal declivities bare; anterior tibiae without posterior bristle; sides of scutellum haired. Length about 8 mm.

FEMALE.—Head black, the facial ridges reddish; cinereous pollinose, the frontal vitta bare; eight pairs of frontals, the anterior pair very strong, the others weak, the upper two pairs reclinate; outer verticals strong. Proboscis brown, the palpi reddish brown. Antennae yellow, the third segment mostly brown; arista yellowish on the basal half, with long, black rays.

Mesonotum rusty reddish, with four broad, darker vittae, the spaces between them thinly white pollinose from posterior view and the vittae themselves appearing whitish from anterior view. Hair black; dorsocentrals 2–3; prescutellar acrosticals strong. Scutellum with two pairs of strong bristles and four weak marginals, the sides haired. Sternopleurals 1–2. A black spot on the front of the pteropleura.

Legs entirely reddish yellow; anterior tibiae without median bristle; posterior femora wholly without bristles on the basal three-fourths of the posteroventral surface and with only two on the basal half of the anteroventral surface, the bristles on the apical half fine.

Wings luteous; costal bristle short. Squamae luteous, darker apically. Halteres reddish, the base of the knob darkened.

Abdomen rusty reddish, the apices of the first to third segments narrowly brown. Fourth segment with a medianly interrupted row of discals. First sternite with short hair, the bristles fine.

TYPE.—Female, northwest Tanganyika, 1910 (Grauer), in Vienna Natural History Museum.

Panaga pallens Curran

Dichaetomyia pallens CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 352.

The type came from Stanleyville, Congo; female, northwest Tanganyika, 1910, and male, Ukaika, December, 1910 (Grauer).

SYNONYMY

Panaga unilineata Stein = *serena* Stein.

AETHIOPOMYIA Malloch

MALLOCH, 1921, Ann. Mag. Nat. Hist., VII, p. 426.

The only species included in this genus is *gigas* Stein. A second species is before me from Cameroon.

TABLE OF SPECIES

Geminate mesonotal vitta black; bristles on the sternites long and very robust. *gigas* Stein.

Geminate vittae reddish; bristles on sternites only moderately strong... *steini*, n. sp.

Aethiopomyia gigas Stein

Spilogaster gigas Stein, 1906, Berl. Ent. Zeitschr., LI, p. 37 (Cameroon).
Curran, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 354 (Congo).
Malloch, 1921, Ann. Mag. Nat. Hist., VII, p. 425.

One male, East London, Cape Province, April 26, 1922 (H. K. Munro).

Aethiopomyia steini, new species

Stein, 1906, Berl. Ent. Zeitschr., LI, p. 39. (Note under *Spilogaster* (!) *arguta* Karsch.)

Very similar to *gigas* Stein but differing in having the mesonotal vittae reddish and much finer bristles on the sternites. It differs from *Allauadinella arguta* Karsch in having the third and fourth abdominal segments wholly black in addition to generic characters. Length, 9.5 to 11.5 mm.

Male.—Head black, the face and lower third of the front reddish in ground color; pollen silvery white. Eyes separated by about twice the width of the ocellar triangle; frontal vitta brownish, very narrow except below; six pairs of strong frontals, the upper pair reclinate, and a few weak ones; ocellars short, but there is a pair of slightly reclinate, strong bristles situated behind the ocellar triangle; verticals weak. Cheeks very narrow, with black bristly hair and some fine brownish-yellow hairs. Palpi reddish brown. Antennae yellow, the long, plumose arista mostly brown. Eyes with enlarged facets anteriorly.

Thorax rusty reddish, darker above; mesonotum with an incomplete median vitta and the lateral margins whitish pollinose, posteriorly with reddish-brown pollen, the two broad, shining ferruginous vittae more or less divided by a slender yellowish pollinose line in front of the suture. Scutellum rusty reddish, pale brownish red pollimose. Dorsocentrals 3–4; one posthumeral; two intra-alars; prealar absent; three pairs of marginal scutellars and no discals, the hair on the sides of the scutellum extending to the lower margin and part of the ventral fringe tawny; sternopleurals 1–2; propleura, pteropleura and prosternum haired. Hair black, yellow on the propleura, prosternum and part of the sternopleura.

Legs reddish, posterior and middle tibiae more or less brown, the tarsi black. Middle femora with a row of anteroventral and posteroventral bristles on the basal half, the posterior pair with rows on their whole length. Anterior tibiae without posterior bristles, the middle ones with four or five short ones; posterior tibiae with two anterodorsal and two or three anteroventral bristles on the median half.

Wings with luteous tinge; fourth vein moderately curved forward apically; stem of second and third veins setulose above and below. Squamae yellowish, the lower lobe convex inwardly but not produced sufficiently to extend under the scutellum. Halteres reddish yellow.

Basal two abdominal segments rusty reddish, the third and fourth black, the second to fourth each with a narrow white pollinose basal fascia; second segment with a narrow apical fascia and a broader median vitta black, the first with the apex narrowly blackish; third segment sometimes with the base narrowly reddish; third and fourth segments appearing pale brownish pollinose in some lights. Third segment with a row of eight or ten strong, erect marginals, the fourth with a row of

marginals and discals. Venter mostly reddish, the sternites with long, fine bristles. Hair black except on the basal sternite.

FEMALE.—Frontal vitta reddish, brown above; no orbitals; mesonotum with very poorly defined dark vittae, almost unicolorous.

TYPES.—Holotype, male, and three male paratypes, Eden, Cameroon (J. A. Reis). Allotype, female, Sierra Leone (C. J. Wainwright collection).

Stein had this species from Cameroon and mentioned it in connection with *Spilogaster arguta* Karsch.

ALLAUADINELLA Giglio-Tos

GIGLIO-TOS, 1895, Ann. Soc. Ent. France, LXIV, p. 363.
MALLOCH, 1921, Ann. Mag. Nat. Hist., VII, p. 426.
MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 364.

A genus known only from Africa and to which seven species are assigned. The following table separates the forms known to me.

TABLE OF SPECIES

1.—Humeri yellow-haired laterally.....2.
Humeri black-haired on the sides.....*arguta* Karsch.
2.—The two shining vittae of the thorax black in front of the suture.....3.
The vittae wholly rusty reddish.....4.
3.—Length at least 11 mm.....*evanescens* Stein.
Length less than 8 mm. (Mauritius).....*bivittata* Macquart.
4.—Mesonotum, from anterior or dorsal view, with a black median vitta. *centralis* Malloch.
Mesonotum without black vittae.....5.
5.—Posterior tibiae with posterodorsal bristle near the middle..*fulvovittata* Malloch.
Posterior tibiae without posterodorsal bristles.....*lativentris* Stein.

Allauadinella arguta Karsch

Spilogaster arguta KARSCH, 1879, Zeitschr. Nat., LII, p. 381.
MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 365.

Six females from Forest Beni and Forest Moera, 1910 (Grauer).

The species may be recognized by the presence of coarse black hairs on the humeri below the humeral bristles. In the other species examined the hair is all yellow below the bristles. The black mesonotal vittae may be entirely absent and the black area on the fourth abdominal segment is variable in size.

Allauadinella ? bivittata Macquart

Aricia bivittata MACQUART, 1843, 'Dipt. Exot.,' II, part 3, p. 162 (f.).
?MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 365.

Described from Mauritius and recorded from continental Africa.

A. evanescens Stein is apparently a distinct species, being larger, and I believe that Malloch's specimen recorded from southern Nigeria belongs to *evanescens*. The length of *bivittata* is given as 3½ lines, or less than 8 mm.

Allauadinella evanescens Stein

Spilogaster evanescens STEIN, 1906, Berl. Ent. Zeitschr., LI, p. 39.
?*Allauadinella bivittata* MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 365.

Two females from Liberia: Bakratown, September 30, 1926, and Banga, October, 1926 (J. Bequaert).

One specimen has a small, oval, black spot on the bases of the second and third abdominal segments while the other has these segments wholly rusty reddish.

Allauadinella ? flaviceps Karsch

Spilogaster flaviceps KARSCH, 1887, Berl. Ent. Zeitschr., XXXI, p. 379.

I do not know this species, which is the type of the genus.

Allauadinella fulvovittata Malloch

MALLOCH, 1921, Ann. Mag. Nat. Hist., VII, p. 427.
MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 365.

Female, Paiata, Liberia, October, 1926 (J. Bequaert).

There is nothing in the description of this species by which it may be distinguished from *lativentris* Stein except the smaller size, and this may not be a reliable criterion. If I have correctly identified the species it may be distinguished by the presence of a posterodorsal bristle on the posterior tibiae.

Allauadinella lativentris Stein

Spilogaster lativentris STEIN, 1906, Berl. Ent. Zeitschr., LI, p. 40.

Female, Banga, Liberia, October, 1926 (J. Bequaert); three females from Forest Beni and Forest Moera, 1910 (Grauer).

The length varies from 10 to 12 mm. and the apex of the abdomen may or may not be brownish.

Allauadinella centralis Malloch

MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 365 (Uganda).
Allauadinella congensis CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 353 (Congo).

Male, Durban, Natal, (collector ?); male, Ngomo, Congo, February 2, 1927 (J. Bequaert); female, "Waboniland."

This species differs from the other males that I have seen in having the fifth sternite entire and bearing a pair of very small apical tubercles in the middle.

GRAUERIA, new genus

Arista plumose; front with one pair of proclinate orbitals and a pair of cruciate interfrontals. Acrosticals and dorsocentrals 2–3; sternopleurals 1–2; three pairs of marginal scutellars and a pair of discals, the scutellum haired to the lower edge; propleura bare in the middle; pteropleura with hair; posterior spiracle large, elongate. Front tibiae with three apical bristles, two of them situated on the upper surface. First and third veins setulose above, the third with basal setulae on the under surface; third vein curving back at the apex, the fourth not curving forward. Squamae small, not expanding inwardly toward the scutellum. Abdomen short oval, almost as wide as long.

GENOTYPE:—*G. ethelia*, new species.

The male is unknown but the genus is evidently related to *Neaveia* Malloch. It may be at once distinguished by the bristled first and third veins.

Graueria ethelia, new species

Rusty reddish-yellow, the front and mesonotum blackish in ground color; front tibiae with only apical bristles; scutellum haired to the lower edge. Length, about 7 mm.

FEMALE.—Front black, brownish on about the anterior half, the parafrontals with whitish pollen; one pair of orbital bristles; seven pairs of frontals, the upper pair strong and reclinate; ocellars long; postocellars very short; verticals and outer verticals long. Occiput blackish, cinereous pollinose; hair black, reddish below. Cheeks brown, about one-fifth as wide as the eye-height, the hair sparse and black. Middle of face reddish in ground color, the pollen cinereous. Proboscis reddish brown; palpi reddish yellow. Antennae reddish, the third segment more yellowish; arista brown.

Thorax rusty reddish-yellow, with brownish-yellow pollen; mesonotum blackish in ground color except laterally; from posterior view with three broad cinereous-yellow vittae extending from the front margin to well behind the middle, these vittae appearing brown from anterior view. Acrosticals 2–3; dorsocentrals 2–3; three pairs of marginal scutellars and a weak pair of discals, the scutellum haired to the lower edge; sternopleurals 1–2.

Legs reddish yellow, with black hair, the tarsi brown from the apex of the first segment; anterior tibiae with only the apical bristles.

Wings cinereous hyaline; first vein bristled beyond the humeral cross-vein, the third with bristles to well beyond the anterior cross-vein on the upper side and with several basal bristles below; fourth vein not or scarcely curved forward apically. Squamae small, reddish yellow; halteres yellow.

Abdomen rusty reddish-yellow, with black hair, the extreme apices of the second and third segments brown; no strong bristles, but there are weak marginals on the second and third segments and a row of very weak discals on the sides of the fourth segment beyond the middle.

HOLOTYPE.—Female, northwest Tanganyika, 1910 (Grauer), in Vienna Natural History Museum.